IN THE CLAIMS

Please amend claims 1 and 9 as follows:

1. (Currently Amended) A method of supplying an input device with user information by measuring a movement along at least one measuring axis, said method comprising the steps: ~~by~~ moving, under user control, an object and the input device relative to each other along said at least one measuring axis, ~~and measuring a movement along said at least one measuring axis, the method comprising the steps of:~~;

illuminating an object surface with a measuring laser beam radiation, emitted from a laser cavity of a laser device, for each measuring axis; and

converting a selected portion of the measuring laser beam radiation reflected by the object surface into an electric signal, said electric signal being representative of the movement along said measuring axis,

characterized in that said converting step comprises:

selecting the measuring laser beam radiation reflected back along the measuring laser beam radiation and re-entering the laser cavity emitting the measuring laser beam radiation, said reflected measuring laser beam radiation undergoing Doppler frequency shift upon relative motion of the object and the input device;

measuring changes in operation of the laser cavity, said changes being due to interference of the re-entering measuring laser beam radiation and an optical wave in the laser cavity and being representative of the movement; and

generating said electric signal in dependence on said measured changes in operation of the laser cavity.

2. (Previously Amended) The method as claimed in claim 1, characterized in that said method further comprises the step:

detecting a direction of the movement along said at least one measuring axis by determining a shape of the electric signal representing the changes in operation of the laser cavity.

3. (Previously Amended) A method of measuring the movement of an input device and an object relative to each other along at least one measuring axis, the method comprising the steps of:

illuminating an object surface with a measuring laser beam radiation, emitted from a laser cavity of a laser device, for each measuring axis; and

converting a selected portion of the measuring laser beam radiation reflected by the object surface into an electric signal, said electric signal being representative of the movement along said measuring axis,

characterized in that said converting step comprises:

selecting the measuring laser beam radiation reflected back along the measuring laser beam radiation and re-entering the laser cavity emitting the measuring laser beam radiation; and

measuring changes in operation of the laser cavity, said changes being due to interference of the re-entering measuring laser beam radiation and an optical wave in the laser cavity and being representative of the movement; and

generating said electric signal in dependence on said measured changes in operation of the laser cavity,

characterized in that said method further comprises the step:

determining a direction of the movement along said at least one measuring axis supplying the laser cavity with a periodically varying electric current, and comparing first and second measuring signals with each other, said first and second measuring signals being generated during alternating first half-periods and second half-periods, respectively.

4. (Previously Amended) The method as claimed in claim 3, characterized in that in said determining a direction of the movement step, said comparing comprises subtracting the first and second measuring signals from each other.

5. (Previously Amended) A method of measuring the movement of an input device and an object relative to each other along at least one measuring axis, the method comprising the steps of:

illuminating an object surface with a measuring laser beam radiation, emitted from a laser cavity of a laser device, for each measuring axis; and

converting a selected portion of the measuring laser beam radiation reflected by the object surface into an electric signal, said electric signal being representative of the movement along said measuring axis,

characterized in that said converting step comprises:

selecting the measuring laser beam radiation reflected back along the measuring laser beam radiation and re-entering the laser cavity emitting the measuring laser beam radiation; and

measuring changes in operation of the laser cavity, said changes being due to interference of the re-entering measuring laser beam radiation and an optical wave in the laser cavity and being representative of the movement; and

generating said electric signal in dependence on said measured changes in operation of the laser cavity,

characterized in that said method is used to determine a click action by a single movement of the object and the input device relative to each other along an axis substantially perpendicular to the object surface.

6. (Previously Amended) A method of measuring the movement of an input device and an object relative to each other along at least one measuring axis, the method comprising the steps of:

illuminating an object surface with a measuring laser beam radiation, emitted from a laser cavity of a laser device, for each measuring axis; and

converting a selected portion of the measuring laser beam radiation reflected by the object surface into an electric signal, said electric signal being representative of the movement along said measuring axis,

characterized in that said converting step comprises:

selecting the measuring laser beam radiation reflected back along the measuring laser beam radiation and re-entering the laser cavity emitting the measuring laser beam radiation; and

measuring changes in operation of the laser cavity, said changes being due to interference of the re-entering measuring laser beam radiation and an optical wave in the laser cavity and being representative of the movement; and

generating said electric signal in dependence on said measured changes in operation of the laser cavity,

characterized in that said method is used to determine both a scroll action and a click action by movement of the object and the input device relative to each other in a first direction parallel

to the object surface and in a second direction substantially perpendicular to the object surface.

7. (Previously Amended) The method as claimed in claim 1, characterized in that said measuring step comprises measuring an impedance of the laser cavity.

8. (Previously Amended) The method as claimed in claim 1, characterized in that said measuring step comprises measuring an intensity of the measuring laser beam radiation.

9. (Currently Amended) An input device for receiving user information generated by moving, under user control, an object and the input device relative to each other along at least one measuring axis, said input device being provided with an optical module for measuring the relative movement of the object and the input device, said module comprising:

at least one diode laser having a laser cavity for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said reflected measuring laser beam radiation having undergone a Doppler frequency shift upon relative movement of the object and the input device, whereby the user supplies said user information to said input device by moving the input device relative to said object, said changes further being representative of the relative movement between the object and the module.

10. (Previously Amended) The input device as claimed in claim 9, characterized in that the measuring means measures a variation of an impedance of the laser cavity.

11. (Previously Amended) The input device as claimed in claim 9, characterized in that the measuring means is a radiation detector for measuring an amount of radiation emitted by the laser cavity.

12. (Previously Amended) The input device as claimed in claim 11, characterized in that the radiation detector is arranged at a side of the laser cavity opposite from where the measuring laser beam radiation is emitted.

13. (Currently Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module, and characterized in that the optical module comprises at least two diode lasers and at least one detector for measuring a relative movement of the object and the device along a first and a second measuring axis, said first and second measuring axes being parallel to said surface of the object.

14. (Currently Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module, and characterized in that the optical module comprises three diode lasers and at least one detector for measuring a relative movement of the object and the device along a first, a second and a third measuring axis, the first and second measuring axes being parallel to said surface of the object and the third axis being perpendicular to said surface.

15. (Currently Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module,

wherein said optical module determines both a scroll action and a click action, and

characterized in that the optical module comprises two diode lasers and at least one detector for measuring relative movements of the object and the input device along a first measuring axis parallel to the object surface and along a second measuring axis substantially perpendicular to the object surface.

16. (Currently Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module,

wherein said optical module determines both a scroll action and a click action, and

characterized in that the optical module comprises two diode lasers and at least one detector for measuring relative movements of the object and the input device along a first and a second measuring

axis, said first and second measuring axes being at opposite angles with respect to a normal to the object surface.

17. (Previously Amended) The input device as claimed in claim 9, wherein said optical module comprises at least one laser and an associated detector, characterized in that the optical means comprises a lens arranged between said at least one laser and associated detector, and an action plane, the at least one laser being positioned eccentrically with respect to the lens.

18. (Currently Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser

beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module,

wherein said optical module comprises at least one laser and an associated detector,

characterized in that the optical means comprises a lens arranged between said at least one laser and associated detector, and an action plane, the at least one laser being positioned eccentrically with respect to the lens,

and wherein said optical module comprises two diode lasers, characterized in that the two diode lasers are arranged such that lines connecting respective centers of the two diode lasers with an optical axis of the lens are at an angle of substantially 90° with respect to each other.

19. (Previously Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module,

wherein said optical module comprises at least one laser and an associated detector,

characterized in that the optical means comprises a lens arranged between said at least one laser and associated detector, and an action plane, the at least one laser being positioned eccentrically with respect to the lens,

and wherein said optical module comprises three diode lasers,

characterized in that the three diode lasers are arranged such that lines connecting respective centers with an optical axis of the lens are at an angle of substantially 120° with respect to each other.

20. (Previously Amended) The input device as claimed in claim 9, characterized in that said at least one laser comprises at least one horizontal emitting laser, and the device comprises, for each

horizontal emitting laser, a reflecting member reflecting the measuring laser beam radiation from the associated horizontal emitting laser to an action plane.

21. (Previously Amended) The input device as claimed in claim 9, characterized in that the optical module comprises a base plate on which at least one diode laser and associated detector are mounted, a cap member fixed to the base plate and comprising a window and a lens accommodated in the cap member.

22. (Previously Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser

beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module,

characterized in that the optical module comprises a base plate on which at least one diode laser and associated detector are mounted, a cap member fixed to the base plate and comprising a window and a lens accommodated in the cap member, and the lens is integrated in the cap member having an internal surface which is curved towards the base plate.

23. (Previously Amended) The input device as claimed in claim 21, characterized in that the base plate, the cap member and the lens are made of a plastic material.

24. (Previously Amended) An input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module,

characterized in that said at least one laser is coupled to a respective entrance side of at least one separate light guide, a respective exit side of said at least one separate light guide being positioned at the window of the input device.

25. (Previously Amended) The input device as claimed in claim 24, characterized in that the light guides are optical fibers.

26. (Previously Amended) The input device as claimed in claim 24, characterized in that said input device comprises three diode lasers and three light guides, and the exit sides of the three light guides are arranged in a circle at a mutually angular spacing of substantially 120°.

27. (Previously Amended) A mouse for a desktop computer, wherein said mouse comprises an input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.

28. (Previously Amended) A keyboard for a desktop computer, wherein said keyboard comprises an input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.

29. (Previously Amended) A laptop computer having integrated therein an input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.

30. (Previously Amended) A display having integrated therein an input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser

beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.

31. (Previously Amended) An ultrasound diagnostic apparatus having integrated therein at least one input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.

32. (Previously Amended) A hand-held scanner apparatus having integrated therein at least one input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.

33. (Previously Amended) A remote control unit having integrated therein at least one input device provided with an optical module for measuring a movement of the input device relative to an object along at least one measuring axis, said module comprising:

at least one laser, having a laser cavity, for generating a measuring laser beam radiation;

optical means for converging the measuring laser beam radiation in a plane near the object; and

converting means for converting the measuring laser beam radiation reflected by a surface of the object into an electric signal,

characterized in that the converting means comprises measuring means for measuring changes in operation of the laser cavity, said changes being due to interference of the reflected measuring laser beam radiation re-entering the laser cavity and an optical wave in the laser cavity, said changes further being representative of a relative movement between the object and the module.